Please amend the claims as follows:

1. A substrate having a surface area, the surface area comprising attached labeled probe molecules.

2. (Amended) The substrate of claim 1 wherein the labeled probe is fluorescent.

3. The substrate of claim 1 wherein the labeled probe fluoresces at a wavelength of about 300 nm to about 700 nm.

4. (Amended) The substrate of claim 1 wherein the labeled probe is comprised of native and nonnative nucleotides.

5. (Amended) The labeled probe molecules of claim 1 wherein the nucleotides are nucleotide analogs including 2 –amino purine at least for adenosine or guanine; ribonucleoside or 2,6-diamino ribonucleoside, formycin A, formycin B, oxyformycin B, toyocamycin, sangivamycin, pseudoouridine, showdomycin, minimycin, pyrazomycin, 5-amino-formycin A, 5-amino-formycin B or 5-oxo-formycin A at least for adenosine; 4-amino-pyrazolo [3,4d] pyrimidine, 4,6-diamino-pyrazolo [3,4d] pyrimidine, 4-amino-6-oxo-pyrazolo [3,4d] pyrimidine, 4-oxo-pyrazolo [3,4d] pyrimidine, 4-oxo-6-amino-pyrazolo [3,4d] pyrimidine, 4,6-dioxo-pyrazolo [3,4d] pyrimidine, pyrazolo [3,4d] pyrimidine, 6-amino-pyrazolo [3,4d] pyrimidine or 6-oxo-pyrazolo [3, 4d] pyrimidine at least for cytosine or thymidine

6. The labeled probe molecules of claim 2, wherein the nucleotide analog is 2-amino purine.

7. The substrate of claim 1 wherein the labeled probe molecules are comprised of amino acids.

8. The substrate of claim 1 wherein the labeled probe molecules are comprised of carbohydrates.

9. (Cancel) The substrate of claim 1 wherein the substrate is a microarray.

10. (Amended) The substrate of claim 1 wherein the substrate is a microarray further having the surface area divided into quadrants wherein each different quadrant has different labeled probe molecules.

11. (Amended) The microarray substrate of claim 10 having from about 100 to about 10,000 different labeled probe [molecule] molecules located upon about 100 to about 10,000 different quadrants.

12. (Amended) The microarray of claim 10 having about 100 to about 1,000 labeled probe molecules per quadrant.

13. (Amended) The substrate of claim 1 wherein the substrate is a bead, said bead sizes range from about 10 microns to about 20 microns.

14. (Amended) The bead substrate of claim13 wherein the bead is formed of a ferromagnetic metal core and a polymeric coating.

15. (Amended) The bead substrate of claim 13 having from about 100 to about 1,000 labeled probe molecules attached to the surface area of the bead.

16. (Amended) A method for assessing the presence of a target molecule in a cell or tissue sample comprising the steps of:

a. procuring a microarray having a surface area comprising attached labeled probe molecules in quadrants;

b. detecting the level of label expressed within each quadrant a first time;

c. applying a sample comprising unlabeled target sequences to the microarray;

d. providing sufficient conditions and time for target molecules to selectively pair with the complementary labeled probe molecules; and

e. detecting the level of label expressed within each quadrant a second time;

f. comparing the levels of label expressed between the first time and the second time for each quadrant.

g. repeating steps c - f until the levels of label approaches zero and/or about background levels;

h. the difference between levels of label in that of step f and that of step c identifies a target/probe pair.

17. A method quantifying the amount of a target molecule in a sample comprising the steps of:

a. procuring a first substrate having a surface area comprising a known number of labeled probe molecules;

b. detecting the level of label expressed by the labeled probe molecules on the substrate;

c. contacting a substrate with a volume of sample containing unlabeled target nucleotide sequences;

d. providing sufficient conditions and time for target molecules to selectively pair with the labeled probe molecules;

e. removing the substrate from the sample and detecting the level of label expressed by the substrate after exposure to the sample;

f. where the level of label expression of the first substrate is substantially reduced to levels substantially similar to background levels, repeating steps a. through e. with subsequent substrates, having surface areas comprising a known numbers of labeled probe molecules.

g. Calculating the amount of target molecule in the volume of sample by adding the known number of labeled probe molecules present on the first substrate and subsequent substrates contacted with the sample, wherein the levels of label expression of the substrates were reduced relative to the levels prior to contacting the sample.

Q3 cancel

18. The method of claim 10, wherein the level of label expression is evaluated using a flow cytometer.

19. A substrate having a surface area divided into quadrants;

different nucleotide probe molecule sequences bound to the surface area, wherein different nucleotide probe molecule sequences are bound to distinct quadrants;

wherein the nucleotide probe molecules are characterized as being a single stranded form or double stranded in form, wherein the level of label expressed from the single stranded probe molecules is greater than the level of label expressed from the double stranded probe molecules; and

wherein the nucleotide probe molecules are further characterized by an ability to hybridize to target nucleotide sequences.

Q4

20. (Added) A method for monitoring the hybridization of target and probe by complementation, said method comprising of:

a. incorporating fluorescent molecules into probes;

b. detecting a first level of label in probe of step a;

d. hybridizing a target with said labeled probe;

e. detecting a second level of label after hybridization of probe and target;

f. comparing the first and second levels of label between that of step b and that of step e, and wherein said difference between second and first levels is less than said first level of step b;

g. washing of unhybridized target;

h. repeating steps d - g until the difference between the first and second levels of label approaches approximately zero and/or about background levels.

21. (Added) A microarray substrate wherein the substrate is a bead, said bead having a surface area comprising attached probe molecules with a fluorescence label, said bead sizes range from about 10 microns to about 20 microns.

22. (Added) A method for monitoring the hybridization of a probe and a target, providing a probe with a fluorescence label and providing a detectable first level of fluorescence of the labeled probe, and providing a second level fluorescence of the labeled probe when hybridized to a complementary target, wherein the second level is lower than the first level.

23. (Added) A method for monitoring the hybridization of a probe and a target, providing a probe with a fluorescence label and providing a detectable first level of fluorescence of the labeled probe, and providing a second level fluorescence of the labeled probe when hybridized to a complementary target, wherein the second level is significantly lower than the first level.

24. (Added) A method for monitoring the hybridization of a probe and a target, providing a probe with a fluorescence label and providing a detectable first level of fluorescence of the labeled probe, and providing a second level fluorescence of the labeled probe when hybridized to a complementary target, wherein the second level is approximately zero.

25. (Added) A method for monitoring the hybridization of a probe and a target, providing a probe with a fluorescence label and providing a detectable first level of fluorescence of the labeled probe, and providing a second level fluorescence of the labeled probe when hybridized to a complementary target, wherein the second level is approximately zero and the first level is greater than zero.

26. (Added) A substrate having a plurality of probes, wherein said probes are fluorescently labeled, the labeled probe providing a detectable first level of fluorescence.

27. (Added) A substrate having a plurality of probes, wherein said probes are fluorescently labeled, the labeled probe providing a detectable first level of fluorescence, and when hybridized to a complementary target, wherein the second level is lower than the first level.

28. (Added) A substrate having a plurality of probes, wherein said probes are fluorescently labeled, the labeled probe providing a detectable first level of fluorescence, and when hybridized to a complementary target, wherein the second level is significantly lower than the first level.

29. (Added) A substrate having a plurality of probes, wherein said probes are fluorescently labeled, the labeled probe providing a detectable first level of fluorescence, and when hybridized to a complementary target, wherein the second level approaches zero.

30. (Added) A substrate having a plurality of probes, wherein said probes are fluorescently labeled, the labeled probe providing a detectable first level of fluorescence, and when hybridized to a complementary target level, wherein the second level approaches zero and the second level is greater than zero.